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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/806,563

**Applicant(s)**

ALBIN, LENNY LEE

**Examiner**

JENNIFER A. LEUNG

**Art Unit**

1797

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) 47-56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-46 and 57-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's amendment filed on June 30, 2008 has been carefully considered. The replacement drawings are accepted. Claims 47-56 are withdrawn from consideration. Claims 58 and 59 are new. Claims 1-46 and 57-59 are under consideration.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, because "the load cells" (line 3) lacks proper positive antecedent basis.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 32, 33 and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Evans (US 6,974,559).

Evans (FIG. 5; column 6, lines 33-67; column 5, line 25 to column 6, line 32) discloses an apparatus comprising: a first bin (i.e., storage vessel **440**) for storing a first catalyst and/or

additive; a second bin (i.e., storage vessel **510**) for storing a second catalyst and/or additive; a loading unit (i.e., pressure vessel **420**) in fluid communication with the first and second bins and a fluidized catalytic cracking unit **424**; a first valve **432** for isolating the first bin from the loading unit on a selective basis; a second valve **520** for isolating the second bin from the loading unit on a selective basis; and a third valve **426** for isolating the loading unit from the fluidized catalytic cracking unit on a selective basis. Evans further discloses a manifold **530** comprising the first and second valves; and a controller **404** electrically coupled to respective actuators of the first, second and third valves (see also column 3, line 44 to column 4, line 15).

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 8, 9, 11, 15-21, 24, 26, 27, 29, 31, 46 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andon et al. (US 4,018,671) in view of Johnson (US 4,165,133) and Markham et al. (US 3,591,525).

Regarding claims 1-4, 46 and 57, Andon et al. discloses an apparatus (figure; column 2, line 10 to column 3, line 20) comprising a collector (i.e., storage tank **10**) in fluid communication with a storage bin (i.e., a tank truck or tank car containing bulk catalyst; see column 2, lines 10-13); the fluid communication being provided by a hose and a first valve that isolates the collector from the storage bin (i.e., bulk fill line **11** with valve **28**); and a transfer pot (i.e., addition hopper **16**) receiving catalyst from the collector, the transfer pot **16** being in fluid communication with a

fluidized catalytic cracking unit (i.e., via the outlet to lines **19**, **21**) and a source of pressurized air (i.e., utility air supply via line **17**); the transfer pot **16** being capable of being pressured so that the catalyst is transferred to the fluidized catalytic cracking unit in response to a pressure differential between the transfer pot and the fluidized catalytic cracking unit (see, e.g., column 2, line 62 to column 3, line 9). The pressurizable transfer pot **16** is an equivalent to the "means for receiving... and injecting..." as defined by Applicant under 35 U.S.C. 112, sixth paragraph.

The apparatus of Andon et al. is the same as the claimed apparatus, except that Andon et al. fails to disclose a "dust collector" for the collector **10**, wherein the dust collector comprises a filter in fluid communication with a vacuum producer, wherein the vacuum producer generates a vacuum within the dust collector to draw the catalyst into the dust collector, and the filter collects dust from within the dust collector.

Johnson (FIGs. 1-4; column 3, line 10 to column 6, line 55) teaches a conventional collector (i.e., unit **13**) in fluid communication with a storage bin (i.e., bulk materials bin **10**); said collector being a dust collector that comprises a filter **33** in fluid communication with a vacuum producer (i.e., compressor-suction pump **17**, connected to line **18**), wherein the vacuum producer generates a vacuum within the dust collector that draws the bulk material **22** from the bin **10**, via a hose **11**, and into the collector, and the filter **33** collects dust from within the dust collector. The apparatus has specific utility for conveying bulk materials, e.g., catalysts (see column 5, lines 20-48; number 13). Markham et al. (figure; column 2, lines 58-68) also teaches a conventional collector (i.e., closed hopper **3**) in fluid communication with a storage bin (i.e., reservoir **1**); said collector being a dust collector that comprises a filter **7** in fluid communication with a vacuum producer (i.e., air ejector **4**), such that the vacuum producer generates a vacuum

within the dust collector that draws the bulk material from the storage bin **1**, via the valved hose **2**, and into the collector **3**; and the filter **7** collects dust from within the dust collector.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the collector **10** in the apparatus of Andon et al. to comprise a dust collector, by providing a filter in fluid communication with a vacuum producer, because such modification would have enabled the bulk catalyst to be transported in a pneumatic manner from the storage bin to the collector, while preventing the discharge of catalyst dust, as suggested by Johnson and Markham et al. And, as noted by Andon et al., pneumatic transport is generally desired since the transport does not require any moving parts to contact the catalyst, other than valves (see column 1, lines 29-32). The dust collector and vacuum producer in the modified apparatus of Andon et al. are, respectively, equivalents to the “dust collecting means” and “vacuum producing means” as defined by Applicant under 35 U.S.C. 112, sixth paragraph.

Regarding claims 8, 9 and 11, Andon et al. discloses that the transfer pot **16** comprises a substantially cylindrical upper portion and a substantially conical lower portion (see figure); the lower portion being shaped to “permit full discharge of its contents through discharge line **19**,” (column 2, lines 20-23). Andon et al., however, does not disclose a collector **10** with the same shape. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to similarly shape the collector **10**, in order to permit the full discharge of the collector’s contents through its discharge line. Markham et al. also evidences the conventionality of providing a collector **3** and a transfer pot **8** of the claimed shape (see figure).

Regarding claims 15-17, Andon et al. discloses that the collector **10** and the transfer pot **16** each comprise a respective sidewall (see figure); the storage bin (i.e., a tank truck or tank car;

column 2, lines 10-14) and the collector **10** are non-adjoining; and the collector **10** adjoins the transfer pot **16** (i.e., the two are connected to one another by conduits **14** and **12**; see figure).

Regarding claims 18-21, Andon et al. (figure; column 2, line 10 to column 3, line 20) discloses an apparatus comprising: a storage bin for storing catalyst at a first location (i.e., a tank truck or car, containing bulk catalyst; see column 2, lines 10-14); and a loading unit, comprising collector **10** and transfer pot **16**, positioned in a second location remote from the first location, the loading unit being in fluid communication with the storage bin (i.e., via bulk fill line **11** with valve **28**) and a fluidized catalytic cracking unit (i.e., via line **19** with valve **20**) on a selective basis; wherein the loading unit is capable of being pressurized (i.e., with utility air supply via line **17**) so that the catalyst is transferred from the loading unit to the fluidized catalytic cracking unit in response to a pressure differential between the loading unit and the fluidized catalytic cracking unit (see, e.g., column 2, line 62 to column 3, line 9).

The apparatus of Andon et al. is the same as the claimed apparatus, except that Andon et al. fails to disclose a dust collector for the collector **10**, wherein the dust collector comprises a filter in fluid communication with a vacuum producer, such that the loading unit is capable of being evacuated, and a resulting vacuum within the loading unit draws catalyst from the storage bin, and the filter collects dust generated by the transfer of catalyst.

Johnson (FIGs. 1-4; column 3, line 10 to column 6, line 55) teaches a collector (i.e., unit **13**) in fluid communication with a storage bin (i.e., bulk materials bin **10**); said collector being a dust collector that comprises a filter **33** in fluid communication with a vacuum producer (i.e., compressor-suction pump **17**, connected to line **18**), such that the vacuum producer generates a vacuum within the dust collector that draws the bulk material **22** from the bin **10**, via a hose **11**,

and into the collector, and the filter **33** collects dust generated by the transfer of bulk material from the storage bin to the collector. The apparatus has specific utility for conveying bulk materials, e.g., catalysts (see column 5, lines 20-48; number 13). Markham et al. (figure; column 2, lines 58-68) also teaches a conventional collector (i.e., hopper **3**) in fluid communication with a storage bin (i.e., reservoir **1**); said collector being a dust collector that comprises a filter **7** in fluid communication with a vacuum producer (i.e., air ejector **4**), wherein the vacuum producer generates a vacuum within the dust collector that draws the bulk material from the storage bin **1**, via the hose **2**, and into the collector **3**; and the filter **7** collects dust from within the collector.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the collector **10** in the apparatus of Andon et al. to comprise a dust collector, by providing a filter in fluid communication with a vacuum producer, because such modification would have enabled the bulk catalyst to be transported in a pneumatic manner from the storage bin to the collector, while preventing the discharge of catalyst dust, as suggested by Johnson and Markham et al. And, as noted by Andon et al., pneumatic transport is generally desired since the transport does not require any moving parts to contact the catalyst, other than the valves (see column 1, lines 29-32).

Regarding claims 24 and 26, Andon et al. discloses that the transfer pot **16** comprises a substantially cylindrical upper portion and a substantially conical lower portion (see Figure); the lower portion being shaped to “permit full discharge of its contents through discharge line **19**,” (column 2, lines 20-23). Andon et al., however, does not disclose a collector **10** of the same shape. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to similarly shape the collector **10**, in order to similarly permit the full



discharge of the collector's contents through its discharge line. Markham et al. also evidences the conventionality of a collector **3** and transfer pot **8** of the claimed shape (see figure).

Regarding claims 27 and 31, Andon et al. discloses that the collector **10** and the transfer pot **16** each comprise a respective sidewall (see figure); and the collector **10** adjoins the transfer pot **16** (i.e., the two are connected to one another by conduits **14** and **12**; see figure).

Regarding claim 29, Andon et al. discloses tank trucks or tank cars (plural; see column 2, lines 10-14). Thus, Andon et al. discloses at least two storage bins.

5. Claims 5 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andon et al. (US 4,018,671) in view of Johnson (US 4,165,133) and Markham et al. (US 3,591,525), as applied to claims 1 and 18 above, and further in view of Harpham (WO 00/48723).

Regarding claim 5, the combination of Andon et al., Johnson and Markham et al. fails to disclose a volume chamber/moisture trap for drying the air used to pressurize the loading unit. Harpham, however, teaches that when compressed air is used as the conveying medium, a dehumidifying apparatus may be connected before or after the compressor, if the material being conveyed is sensitive to moisture (see page 4, lines 12-13). It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a volume chamber/moisture trap for drying the air used to pressurize the loading unit in the modified apparatus of Andon et al., because such means would have prevented the moisture in the air from affecting a moisture sensitive material, i.e., catalyst, being conveyed by the apparatus, as taught by Harpham. The Examiner further takes Official Notice that a volume chamber/moisture trap would have been considered a conventional dehumidifying apparatus in the art.

Regarding claim 28, Andon et al. discloses that the second location is remote from the

first location, but is silent as to the second location being located no more than approximately twenty feet from the first location. In any event, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to configure the second location to be no more than approximately twenty feet away from the first location in the modified apparatus of Andon et al., on the basis of suitability for the intended use and absent a showing of unexpected results thereof, because the claimed distance would have been considered conventional in the art, as further evidenced by Harpham (see page 4, line 19 to page 5, line 3).

6. Claims 10 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andon et al. (US 4,018,671) in view of Johnson (US 4,165,133) and Markham et al. (US 3,591,525), as applied to claims 1, 8, 9, 18, 19 and 24 above, and further in view of Pendleton (US 2,992,858).

Andon et al. discloses a valve **15**, but is silent as to the valve comprising the claimed configuration. Pendleton (FIG. 1; column 2, line 10 to column 3, line 54) teaches a valve **22** for covering an opening **21** at the lower end of a dust collector (i.e., receptacle **17** with filter **23**), the valve having a plug **32/36/37** movable between an upper and a lower position in response to impingement of pressurized air thereon (i.e., compressed air **15**, via conduit **52**). It would have been obvious for one of ordinary skill in the art at the time the invention was made to substitute the valve as taught by Pendleton for the valve **15** in the modified apparatus of Andon et al., on the basis of suitability for the intended use and absent a showing of unexpected results thereof, because valve requires no electrical equipment for operation, thereby eliminating any chance of a spark causing an explosion, in the event that the material being handled is explosive in nature, as taught by Pendleton (see column 3, lines 50-56). Also, the substitution of known equivalent structures involves only ordinary skill in the art, *In re Fout* 213 USPQ 532 (CCPA 1982); *In re*

*Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958), and when the prior art is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result, *KSR International Co. v. Teleflex Inc.*, 550 U.S. --, 82 USPQ2d 1385 (2007).

7. Claims 14 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andon et al. (US 4,018,671) in view of Johnson (US 4,165,133) and Markham et al. (US 3,591,525), as applied to claims 1, 2, 18 and 29 above, and further in view of Evans (US 6,974,559) and Brandauer et al. (EP 476 249).

The combination of Andon et al., Johnson and Markham et al. fails to disclose another of the hoses coupled to the collector and another of the storage bins and a manifold coupled in fluid communication with the collector and the hoses, for placing the hoses in fluid communication with collector **10** on a selective basis.

Evans, however, teaches that in FCC, it is known to inject multiple catalysts into a FCC unit as needed. For example, one catalyst may control emissions from the cracking process, while another catalyst may control the resultant product mix produced by the FCC unit (see column 8, lines 25-30). Brandauer et al. (FIG. 2; Abstract; Machine Translation) further teaches a conventionally known apparatus for pneumatically conveying bulk material from a plurality of sources to a single destination, wherein the apparatus comprises a first bin (not shown) and a second bin (not shown), wherein the bins are coupled to the loading unit via piping **19** and **20**, respectively, and the bins are isolated from the loading unit via a first valve **21** and a second valve **22**, respectively; the valves and piping forming a manifold.

It would have been obvious for one of ordinary skill in the art at the time the invention

was made to provide another hose and a manifold, etc. in the modified apparatus of Andon et al., because multiple catalysts and/or additives are often employed in FCC, as taught by Evans, and the claimed hose, valve, manifold, etc. configuration for enabling the conveyance of a bulk material from a plurality of sources (e.g., a plurality of catalyst and/or additive bins) to a single destination (e.g., the loading unit) would have been considered conventional in the art of bulk material transport, as evidenced by Brandauer et al.

8. Claims 32, 33, 35 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andon et al. (US 4,018,671) in view of Evans (US 6,974,559) and Brandauer et al. (EP 476 249).

Regarding claims 32, 33 and 35, Andon et al. (figure; column 2, line 10 to column 3, line 20) discloses an apparatus comprising: a first bin for storing a first catalyst (i.e., a tank truck or tank car; column 2, lines 10-14); a loading unit (i.e., storage tank **10** and catalyst addition hopper **16**) in fluid communication with the bin and a FCC unit; a first valve **28** for isolating the bin from the loading unit on a selective basis; and a third valve **20** for isolating the loading unit from the FCC unit on a selective basis.

The apparatus of Andon et al. is the same as the claimed apparatus, except that Andon et al. fails to disclose a second bin for storing a second catalyst and/or additive, and a second valve for isolating the second bin from the loading unit on a selective basis.

Evans, however, teaches that in FCC, it is known to inject multiple catalysts into a FCC unit as needed. For example, one catalyst may control emissions from the cracking process, while another catalyst may control the resultant product mix produced by the FCC unit (see column 8, lines 25-30). Brandauer et al. (FIG. 2; Abstract; Machine Translation) further teaches a conventionally known apparatus for pneumatically conveying bulk material from a plurality of

sources to a single destination, wherein the apparatus comprises a first bin (not shown) and a second bin (not shown), wherein the bins are coupled to the loading unit via piping **19** and **20**, respectively, and the bins are isolated from the loading unit via a first valve **21** and a second valve **22**, respectively, the valves and piping forming a manifold.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a second bin for storing a second catalyst and/or additive and a second valve for isolating the second bin from the loading unit in the apparatus of Andon et al., because multiple catalysts and/or additives are often employed in FCC, as taught by Evans, and the claimed bin, valve, manifold, etc. configuration for enabling the conveyance of bulk material from a plurality of sources (e.g., a plurality of catalyst and/or additive bins) to a single destination (e.g., the loading unit) would have been considered conventional in the art of bulk material transport, as evidenced by Brandauer et al.

Regarding claim 41, Andon et al. discloses a controller **22** that is electrically coupled to respective actuators of valves **13**, **15**, **18** and **20**, so that the controller can open and close the various valves. It would have been obvious for one of ordinary skill in the art at the time the invention was made to configure the controller so that it can open and close the claimed first, second and third valves in the modified apparatus of Andon et al., because such would allow the operation of the apparatus to be fully automated. Note that the provision of mechanical or automated means to replace manual activity was held to have been obvious. *In re Venner* 120 USPQ 192 (CCPA 1958); *In re Rundell* 9 USPQ 220 (CCPA 1931).

9. Claims 34, 36-39 and 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andon et al. (US 4,018,671) in view of Evans (US 6,974,559) and Brandauer et al. (EP 476

249), as applied to claim 32 above, and further in view of Johnson (US 4,165,133) and Markham et al. (US 3,591,525).

Regarding claims 34 and 36-39, Andon et al. discloses that the loading unit comprises a collector **10** and a transfer pot **16**, wherein the transfer pot is capable of being pressurized so that the catalyst can be injected into the FCC unit in response to a pressure differential between the transfer pot and the FCC unit (see, e.g., column 2, line 62 to column 3, line 9).

Andon et al., however, fails to disclose a “dust collector” for the collector **10**, wherein the dust collector comprises a filter in fluid communication with a vacuum producer, such that the vacuum producer generates a vacuum within the dust collector to draw the catalysts into the dust collector, and the filter collects dust from within the dust collector.

Johnson (FIGs. 1-4; column 3, line 10 to column 6, line 55) teaches a conventional collector (i.e., unit **13**) in fluid communication with a storage bin (i.e., bulk materials bin **10**); said collector being a dust collector that comprises a filter **33** in fluid communication with a vacuum producer (i.e., compressor-suction pump **17**, connected to line **18**), such that the vacuum producer generates a vacuum within the dust collector that draws the bulk material **22** from the bin **10**, via a hose **11**, and into the collector, and the filter **33** collects dust from within the dust collector. The apparatus has specific utility for conveying bulk materials, e.g., catalysts (see column 5, lines 20-48; number 13). Markham et al. (figure; column 2, lines 58-68) also teaches a conventional collector (i.e., closed hopper **3**) in fluid communication with a storage bin (i.e., reservoir **1**); said collector being a dust collector that comprises a filter **7** in fluid communication with a vacuum producer (i.e., air ejector **4**), such that the vacuum producer generates a vacuum within the dust collector that draws the bulk material from the storage bin **1**, via the valved hose

2, and into the collector 3; and the filter 7 collects dust from within the dust collector.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to configure the collector 10 in the modified apparatus of Andon et al. to comprise a dust collector, by providing a filter in fluid communication with a vacuum producer, because such modification would have enabled the bulk catalysts to be transported in a pneumatic manner from the storage bin to the collector, while preventing the discharge of catalyst dust, as suggested by Johnson and Markham et al. And, as noted by Andon et al., pneumatic transport is generally desired since the transport does not require any moving parts to contact the catalyst, other than the valves (see column 1, lines 29-32).

Regarding claim 42, Andon et al. discloses that the transfer pot 16 comprises a substantially cylindrical upper portion and a substantially conical lower portion (see Figure); the lower portion being shaped to “permit full discharge of its contents through discharge line 19,” (column 2, lines 20-23). Andon et al., however, does not disclose a collector 10 having the same shape. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to similarly shape the collector 10, in order to similarly permit the full discharge of the collector’s contents through its discharge line. Markham et al. also evidences the conventionality of a collector 3 and transfer pot 8 of the claimed shape (see figure).

Regarding claims 43-45, Andon et al. discloses that the collector 10 and the transfer pot 16 each comprise a respective sidewall (see figure); the storage bins (i.e., tank trucks or tank cars; column 2, lines 10-14) and the collector 10 are non-adjoining; and the collector 10 adjoins the transfer pot 16 (i.e., the two are connected to one another by conduits 14 and 12; see figure).

10. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andon et al. (US

4,018,671) in view of Evans (US 6,974,559), Brandauer et al. (EP 476 249), Johnson (US 4,165,133) and Markham et al. (US 3,591,525), as applied to claim 34 above, and further in view of Harpham (WO 00/48723).

The combination of Andon et al., Evans, Brandauer et al., Johnson and Markham et al. fails to disclose a volume chamber/moisture trap for drying the air used to pressurize the loading unit. Harpham, however, teaches that when compressed air is used as the conveying medium, a dehumidifying apparatus may be connected before or after the compressor, if the material being conveyed is sensitive to moisture (see page 4, lines 12-13). It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a volume chamber/moisture trap for drying the air used to pressurize the loading unit in the modified apparatus of Andon et al., because such means would have prevented the moisture in the air from affecting a moisture sensitive material, i.e., catalyst, being conveyed by the apparatus, as taught by Harpham. The Examiner further takes Official Notice that a volume chamber/moisture trap would have been considered a conventional dehumidifying apparatus in the art.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting



ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-46 and 57-59 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-46, 57-67 and 71-85 of copending Application No. 10/593,499. Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications essentially claim the same apparatus for injecting catalyst and/or additives into a fluidized catalytic cracking unit.

Regarding claims 1-17, 46, 57 and 58, copending application '499 similarly claims an apparatus comprising: a dust collector with a filter, a vacuum produced, and a transfer pot (see, e.g., claims 1, 4, 46 and 57); a hose coupling the dust collector and the storage bin, and a first valve coupled to the hose (see, e.g., claims 2, 3); a volume chamber and moisture trap (see, e.g., claim 5); a plurality of load cells and a cabinet for housing the dust collector and transfer pot (see, e.g., claims 6 and 7); a valve covering the opening at the lower portion of the dust collector (see, e.g., claim 10); first, second, third and fourth valves, and a corresponding controller (see, e.g., claims 12, 13); and another hose, another storage bin, and a manifold (see, e.g., claim 14).

Regarding claims 18-31, copending application '499 similarly claims an apparatus comprising: a storage bin at a first location and a loading unit at a second location, the loading unit comprising a dust collector with a filter and a transfer pot (see, e.g., claims 18, 19, 21); a vacuum producer (see, e.g., claim 20); a plurality of load cells and a cabinet (see, e.g., claims 22 and 23); a valve covering the opening of the dust collector (see, e.g., claim 25); and at least two storage bins and a manifold (see, e.g., claims 29 and 30).

Regarding claims 32-45 and 59, copending application '499 similarly claims an apparatus comprising: a first bin, a second bin, a loading unit comprising a dust collector with a filter and a transfer pot, a first valve, a second valve, and a third valve (see, e.g., claims 32, 36, 39); a manifold (see, e.g., claim 33); first and second hoses (see, e.g., claim 35); a vacuum producer (see, e.g., claim 38), a volume chamber and moisture trap (see, e.g., claim 40); and a controller (see, e.g., claim 41). The apparatus may further comprise a fourth valve and a controller for controlling the valves (see, e.g., claims 12 and 13).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### ***Response to Arguments***

12. Applicant's arguments filed June 30, 2008 with respect to the rejections of the claim under 35 U.S.C. §102 and §103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the newly applied prior art.

#### ***Allowable Subject Matter***

13. Claims 6, 7, 12, 13, 22, 58 and 59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims; and claim 23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims (and furthermore, upon the filing of a Terminal Disclaimer for copending Application No. 10/593,499).

The prior art does not disclose or adequately suggest the claimed apparatus for injecting

catalyst and/or additives, or storing and loading catalyst and/or additives, into a fluidized catalytic cracking unit, wherein a plurality of load cells are provided for measuring the weight of the loading unit, i.e., comprising the dust collector and the transfer pot, and the catalyst and/or additives drawn into the dust collector. The prior art to Andon et al. specifically discloses that the apparatus "avoids the need for load-cells and other weighing devices which require specialized maintenance procedures." (column 1, lines 33-36). Although the prior art to Evans teaches load cells (i.e., cells **210**, for measuring the weight of vessel **220** only, see FIG. 2 (prior art); or cells **410**, for measuring the weight of vessel **440** or **510** only, see FIGs. 4 and 5), in each instance, the load cells do not measure the weight of the entire loading unit, as claimed.

Additionally, the prior art does not disclose or adequately suggest the claimed apparatus for loading catalyst and/or additives into a fluidized catalytic cracking unit, wherein the controller is specifically programmed to open the third valve (which isolates the transfer pot from the fluidized catalytic cracking unit) only after it fully closes the fourth valve (which isolates the transfer pot from the source of pressurized air). In contrast, the prior art to Andon et al. discloses that the controller **22** is specifically programmed to open the valve **20** while the valve **18** is still open (see Table 1).

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER A. LEUNG whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A. Leung/  
Primary Examiner, Art Unit 1797